063503

MRID No. 413688-34

DATA EVALUATION RECORD

1. **CHEMICAL**: 100 Paraffine Oil

2. **TEST MATERIAL**: clear, light amber liquid CAS No. 64742-54-7

3. **STUDY TYPE**: §72-1(c) Acute Fish Toxicity Rainbow Trout (Salmo gairdneri)

4. **CITATION**:
   Author: G.A. Rausina and L.S. Glen
   Title: 96-Hour Aquatic Toxicity Study in Rainbow Trout and Bluegill Sunfish with 100 Paraffine Oil
   Date: May 27, 1983
   Laboratory Report #: 1032
   Any Other Study #:
   Sponsor: Gulf Oil Refining and Marketing Company
   Laboratory: Gulf Life Sciences Center
   MRID No.: 413688-34

5. **REVIEWED BY**:

   Conchi Rodríguez
   Biologist
   Ecological Effects Branch
   Environmental Fate and Effects Division (7507C)

   Signature: Conchi Rodriguez
   Date: 6/16/94

6. **APPROVED BY**:

   Harry Craven
   Supervisory Biologist
   Ecological Effects Branch
   Environmental Fate and Effects Division (7507C)

   Signature: Harry T. Craven
   Date: 6/16/94

7. **CONCLUSION**: The study is scientifically sound but does not fulfill the guideline requirements. It is classified as supplemental. Under the conditions of this study, no mortality was observed during the study. The LC50 for the bluegill sunfish is >100 mg/l of 100 Paraffin Oil. 100 Paraffin Oil is classified as practically non-toxic.

8. **RECOMMENDATIONS**: The following additional information is required to upgrade the study: (1) purity of test material, (2) if this is the technical of the active ingredient or a typical end use product, (3) solubility of the test material, (4) the test vessels materials, and (5) loading.

9. **BACKGROUND**

10. **MATERIALS AND METHODS**

A. **Test Organisms**

Guideline Criteria	Reported Information
Species (Scientific Name)	Salmo gairdneri
Mean Weight (0.5-5 grams)	4.9 - 15.3 g
Mean Length(S.L. longest not > 2x shortest	68 - 102 mm
Supplier	Catalia/Millsite Farms, OH
All fish from same source (yes or no)	yes
Al fish from the same year class (yes or no)	not specified in the report
Other Comments	n/a

B. **Source/Acclimation**

Guideline Criteria	Reported Information
Acclimation Period (minimum 14 days)	Not specified, however fish were received 39 days before the beginning of the test.
Wild caught 7 day quarantine (yes or no)	Fish were not caught in the wild.
Check for signs of disease or injury (yes or no, if yes describe)	Fish were observed for 7 days prior to the beginning of the study.
If diseased it can be treated in 48-hr pretest no sign of the disease remains (Report hours prior to test in which no sign of disease or N/A)	No diseases reported
No feeding during the study (When last fed)	No feeding during test, when last fed was not reported.
<3% mortality 48 hours prior to testing (% mortality, if any)	No mortality reported.

C. **Test System**

Guideline Criteria	Reported Information
Describe source of dilution water (prefer soft reconstituted water)	Charcoal-filtered municipal water
Does water support test animals without observable signs of stress?	Not reported.
Was dechlorinated water used (not recommended)	no
Water Temperature (Warm water-17°C or 22°C) (Cold water-12°C)	11.6 - 12.0 °C
pH	7.0 - 7.6
Dissolved Oxygen (Static 1st 48 hrs 40%; 2nd 48 hrs 60%; Flow-through 60%) (% of lowest conc. & hour)	At 72 hrs 85% (8.9 mg/l) At 96 hrs 40% (4.2 mg/l)
Total hardness (40 to 48 mg/L as $CaCO_3$ well water)	101.9 mg/l CaCO3
Total Alkalinity	51.4 mg/l CaCO3
Specific Conductance	417.7 µmhos/cm
Total Organic Carbon	Not measured
Test Aquaria 1. Material (glass or stainless steel) 2. a. Static volume (18.9 L (5 gal or 19000 cc) with 15 L solution) b. Static or flow-through volume (300x600x300 = 54000 cc.)	1. Material not reported 2. 25 liters
Type of Dilution System (Reproducible supply of toxicant)	N/A

Flow rate Consistent flow rate-meter systems calibrated before study and checked 2*24 hours - 5 to 10 vol/24 hours	N/A
Biomass Loading Rate (Static no > 0.8 g/L ≤ 17°C; >17°C 0.5g/L; Flow-through 1 g/L/24	Not reported.
Photoperiod (16 L & 8 D)	12 hours light, 12 hours day
Solvents 1. (Do not exceed 0.5 ml/L for static tests) 2. (Do not exceed 0.1 ml/L for flow-through)	No solvents used.
Other Comments	Static renewal test. Renewed every 24 hours. A glass lid was on top of the vessels. Vessels were stirred vigorously throughout the day.

D. **Test Design**

Guideline Criteria	Reported Information
Range Finding Test (LC_{50} >100 mg/L with 30 fish, no definitive test required.)	
Definitive Test	
Nominal Concentrations (control+5 treatment levels; dosage should be 60% of the next highest concentration; concentrations should be geometric series)	1 concentration 100 mg/l
Controls (Minimum control mortality; static 10%; flow-through 5%	No control mortality
Number of Test Organisms; (Minimum 10/level can be divided among containers)	20/level (two vessels with 10 fish)

All organisms must be randomly assigned to test vessels. (yes or no, describe if no)	Yes
Biological Observations (yes or no)	Not reported
Water Parameter Measurements 1. Temperature - record every 6 hrs;>1°C. 2. D.O. beginning,48 hrs,end for control high, medium, and low dose. 3. pH beginning,48 hrs, end for control, high, medium, and low dose.	1. Recorded daily in all vessels. 2. Recorded daily in all vessels. 3. Recorded daily in all vessels.
Chemical Analysis (needed if aeration, volatile, insoluble, precipitate, not steel or glass, known to adsorb, and flow-through) (yes or no)	No chemical analysis was done because samples were stored for an excessive period of time.
Other Comments	N/A

11. **REPORTED RESULTS**

Guideline Criteria	Reported Information
Mean Measured Concentrations (report conc.)	N/A
Recovery of Chemical (% recovery)	N/A
Mortality & Observations (Describe observations & attach mortality tables)	No mortalities observed
Author's Comments	No comments

12. **STUDY AUTHOR'S CONCLUSIONS / QUALITY ASSURANCE MEASURES**

"No mortality or unusual pharmacotoxic signs occurred among the Bluegill Sunfish that were exposed to 100 mg/l nominal concentration of 100 Paraffine Oil. Chemical Analysis of the test water was not performed"

This study was performed before the effective date of the EPA Good Laboratory Practice Standard.

13. **REVIEWER'S DISCUSSION AND INTERPRETATION**

A. **Test Procedure**

The following items did not meet the guideline criteria:

1. The test vessel material was not reported. The material should be stainless steel or glass.

2. Loading was not reported. Accepted loading rate is 0.5 g/l.

3. The purity of the test material was not indicated.

4. Fish weighted more than recommended.

B. **Statistical Analysis**: No statistical analysis was performed because no mortalities occurred.

C. **Discussion/Results**: There is no indication of low solubility of the compound in the study. However, it was stated that the vessels were agitated vigorously several times during the day. This indicate that the solubility of 100 Paraffin Oil is low. A solvent should have been used.

It is not clear if the test material is a formulated product or the technical grade of the active ingredient. Information on the nature of the test material is needed.

The study is scientifically sound but does not fulfill the guideline requirements. It is classified as supplemental. Under the conditions of this study, no mortality was observed during the study. The LC50 for the bluegill sunfish is >100 mg/l of 100 Paraffin Oil. 100 Paraffin Oil is classified as practically non-toxic.

D. **Adequacy of the Study**:

1. Classification: Supplemental

2. Rational: Additional information on the purity of the test material, classification of the test material (technical or typical end use product), solubility, test vessels materials and loading must be provided

3. Repairability: Yes